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December 1, 2005

***Via Express Mail***

Gregory Morse  
Supervisory Patent Examiner  
P. O. Box 1450  
Alexandria, Virginia 22313-1450

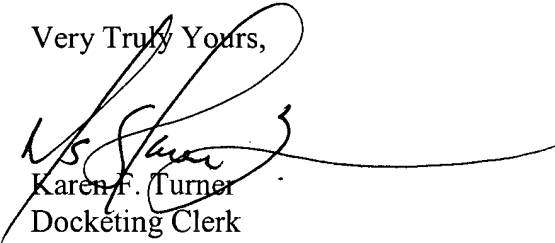
RE: Application Number: 10/058,954 filed on 01/28/2002  
Non-Final Office Action

Dear Mr. Morse:

Please find enclosed a Non-Final Office Action Document, which was mailed to our office upon your request to be mailed back to the United States Patent and Trademark Office.

Thank you for your attention to this matter.

Very Truly Yours,

  
Karen F. Turner  
Docketing Clerk

Enclosure

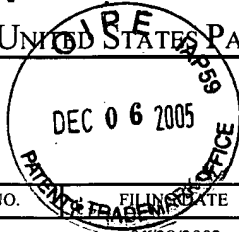
/kft



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,954	01/28/2002	Edward B. Boden	END920010095US1	4643

7590

11/15/2005

JONATHAN P. OSHA  
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EXAMINER

POLTORAK, PIOTR

ART UNIT PAPER NUMBER

2134

DATE MAILED: 11/15/2005

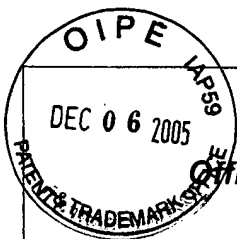
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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Desketing</b>
Action: _____
Base Date: _____
Bus Date: _____
Deadline: _____
Initials: _____
Atty./Sec. Initials: _____



## Office Action Summary

**Application No.**

10/058,954

**Applicant(s)**

BODEN, EDWARD B.

**Examiner**

Peter Poltorak

**Art Unit**

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. Claims 1-31 have been examined.

#### ***Specification***

2. In search for an interpretation of "a nested VPN connection" the examiner encountered the phrase: "for a number of VPN connections such as nested connections and nested confections with coincident local endpoints" (*The specification, pg. 10 lines 11-12*). Applicant should verify that the used word "confections" is correct and if it is the examiner requests providing the interpretation of the term.

#### ***Drawings***

3. On page 15 lines 7-8 applicant discusses Fig. 2 as a prior art, reciting: "In previous systems, a connection arrangement such as that depicted in Fig. 2 posed numerous problems". However, Fig. 2 has no prior art associated with it. The Fig. 2 should be replaced with the figure labeled as prior art or applicant should clarify why the figure does not read on prior art.
4. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the

several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

5. The phrase: "wherein the refreshing IKE traffic is secured" (*claim 6*) should read "wherein the refreshed IKE traffic is secured".

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.
7. Claims 1-31 recite: "IKE traffic". The term is not understood. IKE is a hybrid protocol, combining parts of other protocols (e.g. ISAKMP, Oakley and SKEMI). It is not clear whether applicant using the "IKE traffic" term refers to the traffic that requires that each part of IKE is present, whether any part of these protocols must be present within the "traffic", whether applicant refers to

Art Unit: 2134

the traffic that is initiated using simply the idea of IKE's establishing a secure, authenticated channel upon which security association is negotiated or whether an other interpretation of the term should be exercised.

8. Claims 5, 8-9, 12, 14-15, 18-20, 22, 28 and 31 recite the term "outside", e.g. "outside of a particular VPN connection". The term is not understood.
9. The specification discloses the term "outside" on pg. 3 line 11, pg. 5 lines 1, 9, pg. 6 line 8, pg. 4 line 7, pg. 14 line 14 and 22, and pg. 18 line 4 and 11.
10. However, the specification does not clearly indicate how this term should be treated. For instance in light of the phrase "the nested VPN connection must travel outside of the nested VPN connection yet inside of the outer VPN connection" (pg. 3 lines 12) the "outside" could be interpreted as the connection C2 between nodes 32 and 32 (Fig. 2), which "extends" over extension C1.
11. However, the citation on pg. 18: "Since the IKE traffic pertains to connection C2, IKE traffic management system 30 will guide the response IKE traffic outside of connection C2 in the proper security format" (lines 2-4) makes the above interpretation uncertain.
12. Also, the specification discusses the C2 and C1 connection in light of Fig. 3 wherein C2's entries in columns 58 and 64 (in contrast to the prior art) is changed, and perhaps this change identifies an "outside" connection.
13. Applicant should clarify the term but for purposes of further examination the phrase is treated as best understood.

Art Unit: 2134

14. Claims 5-6, 12 and 28-29 recite the phrase: "refreshing IKE traffic". It is not clear whether "refreshing" constitutes new data sent from a sender to a receiver or if it must involve the whole set of IKE transactions, e.g. the new key exchange.
15. The term: "outer VPN connection" in claims 10, 17-20 and 22-23 is not understood.
16. In claims 7-8, 11, 18-19, 20, 22-23 and 31 the phrase: "nested VPN connection" is not clear, especially since in claim 8 applicant recites: "a nested VPN connection outside of the nested VPN connection". In computer science nested transactions are transactions that take place within a larger transaction.
17. For purposes of further examination the term: "a nested VPN connection" is treated as a VPN connection that is originated by another VPN connection.
18. Claim 8 recites: "a nested VPN connection outside of the nested VPN connection". There is no other "nested VPN connection" introduced in the claims on which claim 8 depends. As a result the statement essentially requires that an object be outside of itself. The limitation is not understood.
19. The phrase: "replacing the potential VPN connection with the nested VPN connection" in claim 23 is not understood. The language suggests that "the potential VPN connection" exists due to the placing of "a potential nested VPN connection entry in a table". As a result "updating the table by replacing the potential VPN connection entry with the nested VPN connection entry" would seem to be more appropriate language.

In other words the examiner understands applicant's intention that a table consists of entries that represent a connection (as also cited in claim 23) and not actual (or potential) VPN connections. Applicant should correct the issues in claim 23, or otherwise clarify it.

20. Claim 17 recites establishing security associations for an outer VPN connection and claim 18 further limits claim 17 reciting that "IKE traffic pertaining to the outer VPN connection is guided outside of the outer VPN connection". Although claim 17 does not explicitly teach establishing "the outer VPN connection" the examiner understands that "establishing security associations" is equivalent to establishing "a VPN connection" (e.g. an outer VPN connection).
21. For purposes of further examination the phrase is treated as best understood; however, appropriate correction/clarification is required

***Claim Rejections - 35 USC § 102 or 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.



The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 1 and 27 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over *Ylonen et al.* (U.S. Patent No. 6438612).
23. As per claims 1 and 27 *Ylonen et al.* teach data communication using IKE and VPN (col. 5 line 56-col. 6 line 25). This reads on: "an IKE traffic management system for managing the IKE traffic through VPN connections"
24. *Ylonen et al.* do not explicitly teach "a filter detection system for searching for IKE traffic permit filters" and "an IKE traffic enablement system for automatically allowing IKE traffic to flow if the IKE traffic permit filters are not detected".
25. However, *Ylonen et al.* discloses that the invention includes firewalls (col. 5 lines 42-45), and it is old and well-known practice to use firewalls to utilize firewall traffic permit filters to restrict network traffic from and to network nodes, which leads the examiner to believe that the mechanisms recite above are present in *Ylonen et al.* invention.
26. Even if *Ylonen et al.*'s invention did not utilize a filter detection system to decide whether there are any IKE traffic permit filters present on the firewall, and to allow the IKE traffic if the permit filters were not detected, it would have

Art Unit: 2134

been obvious to one of ordinary skill in the art at the time of applicant's invention to implement such a mechanism into *Ylonen et al.*'s invention in order to ensure that only data conforming to established policies flows from and out of an organization.

27. Claims 2-26 and 27-31 are rejected under 35 U.S.C. 103(a) as obvious over *Ylonen et al.* (U.S. Patent No. 6438612).

28. As per claims 2 and 6, C3 and *Ylonen et al.* teach that any of the communicating devices can be a firewall (col. 5 lines 42-45) C2,6,.

29. As per claims 3 and 7 firewalls, once set up, work automatically C3 and it is inherent that a traffic management system implementing IKE traffic must have entries that identify the connection between nodes, IP address of connected nodes and security associations for the VPN connections. Also, given the fact that it is old and well known in the art that tables are used to store information (e.g. ACL, DNS entries etc.) it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to employ tables to store the IKE traffic entries for motivation of a quick access to the information C7.

30. As per claims 4, 6 it is implicit that the security association must occur on sending and receiving nodes in order to establish a VPN connection.

31. As per claim 5 it is well known in art (as pointed out by applicant on page 15 lines 7-8 in relation to Fig. 4) to "extend" an already existing VPN connection. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to extend the VPN connection (guide the refreshing IKE

Art Unit: 2134

traffic outside of the VPN connection). One of ordinary skill in the art would have been motivated to perform such a modification in order to extend connection security, especially when a client connects to an organization through an ISP connection, wherein the ISP is not part of the organization.

32. The "extended" connection also reads on a nested VPN connection.

33. As per claim 8 a station must keep security association for each VPN connection that the receiving station utilizes to communicate with other parties.

34. Claims 9-26 and 28-31 are substantially equivalent to claims 2-8; therefore claims 9-26 and 28-31 are similarly rejected.


### ***Conclusion***

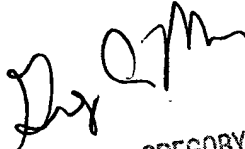
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

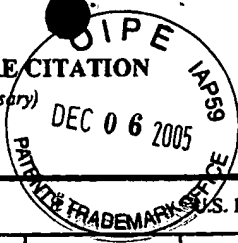
Art Unit: 2134

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Signature  
  
10/24/05  
Date

  
GREGORY MORSE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)



Docket Number (Optional)

END920010095US

Application Number

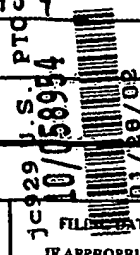
10/058 954

Applicant(s)

Boden

Filing Date

Group Art Unit



**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILED DATE IF APPROPRIATE
		6,122,736	09/2000	Vanstone et al.			
		6,091,820	07/2000	Aziz			
		5,896,455	04/1999	Vanstone et al.			
		5,633,933	05/1997	Aziz			

**FOREIGN PATENT DOCUMENTS**

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
		WO 99/49612	09/1999	WO				

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

	IBM Technical Disclosure Bulletin, "Efficient Methods for Two Party Entity Authentication and Key Exchange in a High Speed Environment," March 1995, Vol. 38 No. 03, pgs 295-297.
	Numao, M., "A Secure Key Registration System Based on Proactive Secret-Sharing Scheme." Proceedings of The Fourth International Symposium on Autonomous Decentralized Systems, held on March 21-23, 1999, pgs 230-237.

EXAMINER

DATE CONSIDERED

10/18/05

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

END920010095US

Application Number

60 / 058 984

Applicant(s)

Boden

Filing Date

Group Art Unit

\*EXAMINER  
INITIAL

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

R. Impagliazzo and S. Rudich, "Limits on the Provable Consequences of One-Way Permutations." Proceedings of the Twenty First Annual ACM Symposium on Theory of Computing, May 14-17, 1989, Seattle, WA USA, pgs. 44-61.

EXAMINER

DATE CONSIDERED

10 / 18 / 05

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**Notice of References Cited**



Application/Control No.

10/058,954

Applicant(s)/Patent Under  
Reexamination  
BODEN, EDWARD B.

Examiner

Peter Poltorak

Art Unit

2134

Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,438,612	08-2002	Ylonen et al.	709/249
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.